

Claims:

- 1 1. An inflatable body armor system, comprising:
2 at least one body armor section adapted to be worn by a
3 user, each said body armor section including
4 a flexible and sealable plenum defined by spaced apart
5 walls when said plenum is inflated,
6 a ballistic armor fabric encasing said plenum, and
7 means, dispersed in said plenum, for altering
8 trajectory of a projectile entering said plenum.

- 1 2. An inflatable body armor system as in claim 1 wherein
2 said means for altering comprises a plurality of flexible
3 lines coupled to said walls of said plenum, said plurality of
4 flexible lines being placed in tension when said plenum is
5 inflated.

- 1 3. An inflatable body armor system as in claim 2 wherein
2 said means for altering further comprises a plurality of
3 shaped objects in said plenum.

- 1 4. An inflatable body armor system as in claim 3 wherein
2 each of said plurality of shaped objects comprises a ceramic
3 object.
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4 5. An inflatable body armor system as in claim 3 wherein
5 said means for altering further comprises a plurality of
6 ballistic armor fabric sheets in said plenum with said
7 plurality of flexible lines passing therethrough.

1 6. An inflatable body armor system as in claim 5 wherein
2 said plurality of ballistic armor fabric sheets are disposed
3 at a plurality of angles relative to said walls of said
4 plenum.

1 7. An inflatable body armor system as in claim 1 wherein
2 said means for altering comprises a plurality of shaped
3 objects in said plenum.

1 8. An inflatable body armor system as in claim 7 wherein
2 each of said plurality of shaped objects comprises a ceramic
3 object.

1 9. An inflatable body armor system as in claim 7 wherein
2 said means for altering further comprises a plurality of
3 ballistic armor fabric sheets in said plenum.

1 10. An inflatable body armor system as in claim 9 wherein
2 said plurality of ballistic armor fabric sheets are disposed
3 at a plurality of angles relative to said walls of said
4 plenum.

1 11. An inflatable body armor system as in claim 2 wherein
2 said means for altering further comprises a plurality of
3 ballistic armor fabric sheets in said plenum with said
4 plurality of flexible lines passing therethrough.

1 12. An inflatable body armor system as in claim 11 wherein
2 said plurality of ballistic armor fabric sheets are disposed
3 at a plurality of angles relative to said walls of said
4 plenum.

1 13. An inflatable body armor system as in claim 1 wherein
2 said means for altering comprises a plurality of ballistic
3 armor fabric sheets mounted in and coupled to said plenum.

1 14. An inflatable body armor system as in claim 13 wherein
2 said plurality of ballistic armor fabric sheets are disposed
3 at a plurality of angles relative to said walls of said
4 plenum.

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5 15. An inflatable body armor system as in claim 2 wherein
6 each of said plurality of flexible lines comprises at least
7 one fiber.

1 16. An inflatable body armor system as in claim 1 further
2 comprising a polymeric sealing material coupled to each of
3 said walls of said plenum for sealing punctures therein.

1 17. An inflatable body armor system as in claim 1 wherein
2 said plenum is divided into a plurality of sealable chambers.

1 18. An inflatable body armor system as in claim 1 wherein,
2 at a portion thereof that will come into contact with the
3 user when said body armor section is worn by the user, said
4 ballistic armor fabric presents a three-dimensional surface
5 wherein air gaps are created between said surface and the
6 user.

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7 19. An inflatable body armor system, comprising:
8 at least one body armor section adapted to be worn by a
9 user, each said body armor section including
10 a flexible and sealable plenum defined by spaced apart
11 walls when said plenum is inflated,
12 a ballistic armor fabric encasing said plenum, and
13 a plurality of flexible members disposed in said plenum
14 and coupled thereto that are placed in tension when said
15 plenum is inflated.

1 20. An inflatable body armor system as in claim 19 further
2 comprising a plurality of shaped objects in said plenum.

1 21. An inflatable body armor system as in claim 20 wherein
2 each of said plurality of shaped objects comprises a ceramic
3 object.

1 22. An inflatable body armor as in claim 19 wherein said
2 plurality of flexible members comprises one of (i) fibers,
3 (ii) fibers and ballistic armor fabric sheets, and (iii)
4 ballistic armor fabric sheets.

1 23. An inflatable body armor system as in claim 22 further
2 comprising a plurality of shaped objects in said plenum.
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3 24. An inflatable body armor system as in claim 23 wherein
4 each of said plurality of shaped objects comprises a ceramic
5 object.

1 25. An inflatable body armor system as in claim 19 further
2 comprising a polymeric sealing material coupled to said walls
3 of said plenum for sealing punctures therein.

1 26. An inflatable body armor system as in claim 19 wherein
2 said plenum is divided into a plurality of sealable chambers.

1 27. An inflatable body armor system as in claim 19 wherein,
2 at a portion thereof that will come into contact with the
3 user when said body armor section is worn by the user, said
4 ballistic armor fabric presents a three-dimensional surface
5 wherein air gaps are created between said surface and the
6 user.